CENTERS OF EXCELLENCE SUMMARY

With only one third of the total available program dollars invested as of June 30, 2009, the Centers of Excellence program had the following economic benefits:

Economic Impact: $329.4 million
The Centers of Excellence program has had $329.4 in estimated total economic impact to North Dakota's economy. This includes a direct impact of $115.5 million generated by the Centers and their partners.

Job Creation: 2060 jobs
The Centers of Excellence program has lead to the creation of 2,060 total jobs. This includes 922 jobs at an estimated annual payroll of $44.5 million created by the Centers themselves or by partnering companies. In addition, the efforts of the Centers and their partners have supported the creation of another 1,138 jobs within the state of North Dakota.

Private Sector Partners: 132 Companies
The Centers have formed partnerships with 132 companies. These include companies in target industries such as advanced manufacturing, energy, technology, and value-added agriculture, as well as emerging industries such as life sciences and unmanned aircraft systems.

New Businesses: 17 New or Expanded Businesses
Seventeen new or expanded businesses have resulted from the Centers of Excellence program. This includes seven new spinoff companies, five companies that expanded to North Dakota, and five companies that have expanded within the state.

Funding: $19.9 million Invested
Only one third of the investment allocated to Centers of Excellence was invested as of June 30, 2009. Due to careful due diligence and project requirements on the part of the program and the university system, projects are funded and dollars spent only when the required match is available and the project is ready to move forward.

Status of Centers of Excellence Investment

June 30, 2009

Spent	**$ 19.9 million**
Disbursed to Centers (not yet spent)	$ 11.5 million
Approved (waiting disbursement)	$ 10.9 million
Available for Awards	$ 20.0 million
Total	$ 62.3 million

Center Status

These Centers are still in the early stages of development. Each competitively awarded Center of Excellence has its progress monitored for six to ten years. During this time period, it is anticipated that each Center will produce the results proposed at the outset of its project. No Center has yet reached its maturity.

- 7 Centers have been in operation for less than 1 fiscal year
- 3 Centers have been in operation for 2 fiscal years
- 9 Centers have been in operation for 3 fiscal years
- 1 Center has been in operation for 4 fiscal years

Examples of other Key Benefits

- The NDSU Center for Agbiotechnology is evaluating the feasibility of releasing two lines of canola for the 2010 planting season. These two lines of canola outperform comparable canola lines that are currently available in the marketplace.
- The WSC Petroleum Safety and Training Center provides training for 169 companies in the oil and gas industry. Over 4,000 individuals received training from the Center in Fiscal Year 2009 alone.
- The UND Petroleum Research, Education, and Entrepreneurship Center is performing research that could double the recovery rate of oil in the Bakken Formation. The Center is also working on a project to establish a new green energy source in North Dakota by utilizing oil field water to create electrical power.
- The LRSC Dakota Center for Technology-Optimized Agriculture is researching precision agricultural practices such as variable rate application of synthetic fertilizer. Results to date show farmers can save 8-16 percent on fertilizer costs by utilizing these practices.
- The UND Energy and Environmental Research Center's National Center for Hydrogen Technology has secured over $53 million in sponsored research contracts.
- The UND Research Foundation's Center of Excellence for Passive Therapeutics is using antibodies from goose eggs to develop therapeutic products which may be used to treat viral infectious diseases such as West Nile Virus, Avian Influenza, and H1N1.

CENTER HIGHLIGHTS

University of North Dakota

National Center for Hydrogen Technology (launched February, 2006)

- Has secured over $53 million in hydrogen-related research contracts.
- Was designated as the National Center for Hydrogen Technology by the U.S. Department of Energy.
- The new facility enhances the Center's capability to research hydrogen and fuel cell technologies. This research has the potential to impact the energy, automotive, and agricultural industries amongst others.

Unmanned Aircraft Systems (UAS) Center of Excellence (launched May, 2006)

- Provides an essential cold weather testing ground for unmanned aircraft systems.
- Working to resolve the "sense and avoid" issue which is a critical barrier to opening national airspace to unmanned aircraft systems.
- Completed significant demonstrations of UAS payloads that have commercialization potential such as PrecisionAg, Airborne Sense and Avoid, and Laser Communications.
- Two new spinoff businesses, Machine Visionaries, LLC and Statistical Methodology & Research Design Consultants, have been created.

Center of Excellence in Life Science & Advanced Technologies (launched March, 2007)

- State-of-the-art facility boasts the only Biosafety Level 3 labs in North Dakota which allows tenants to safely perform research on infectious diseases such as West Nile Virus and Avian Influenza.
- Two new spin out businesses, Avianax and Sunrise Renewables Company, have been created.
- Additionally, three companies, Novadigm, Laserlith, and Alion Science and Technology, have expanded their operations into North Dakota.

Center of Excellence in Space Technology & Operations (launched June, 2009)

- Will conduct research using a network of satellites designed to dramatically improve weather forecasting abilities.

Petroleum Research, Education & Entrepreneurship Center of Excellence (launched June, 2009)

- Performing research that could double the recovery rate of oil in the Bakken Formation.
- Working to establish a new green energy source in North Dakota by utilizing oil field water to create electrical power.
- Working to develop techniques for CO2 sequestration in the Williston Basin.

SUNRISE BioProducts (launched June, 2009)

- Will invent, develop, and commercialize green industrial chemicals, polymers and fiber composites using crop oils. The Center's goal is for such products to be nearly identical to existing petroleum-based products and accepted as green replacements for those existing products.

Center of Excellence for Passive Therapeutics (launched June, 2009)

- Using antibodies from goose eggs to develop therapeutic products that may be used to treat viral infectious diseases such as West Nile Virus, Avian Influenza, and H1N1.
- Two new spin out companies, Schiltz Goose Farms-North and Schiltz Goose R&D, have been created.

North Dakota State University

Center for Advanced Electronics Design & Manufacturing (launched February, 2006)

- Worked with Crane Wireless Monitoring Solutions (WMS) to develop a prototype of a vending machine component that has been commercialized. Fargo-based Phoenix International is manufacturing the product line.
- Killdeer Mountain Manufacturing utilizes methodology developed by NDSU and Crane WMS to manufacture military sensors.

Center for Surface Protection (launched May, 2006)

- Supports Marvin Windows and Doors which credits its ability to retain jobs and business activity in a downward, contracting industry to its involvement with the Center.
- Working with private sector partners such as Caterpillar, Inc. to develop and improve anticorrosion coatings and application techniques.

Center of Excellence for Agbiotechnology (launched May, 2006)

- Working to improve genetics and processing for canola with a goal of improving crop yield and oil content. North Dakota produces approximately 90 percent of the canola grown in the United States.
- Evaluating the feasibility of releasing two lines of canola for the 2010 planting season. These two lines of canola outperform comparable canola lines that are currently available in the marketplace.

Center for Biopharmaceutical Research & Production (launched June, 2009)

- Will design, develop, and produce biopharmaceutical products including efficient DNA vaccines.

Center for Integrated Electronic Systems (launched June, 2009)

- Will perform research and development projects to integrate electronic hardware and software systems. Products featuring integrated hardware and software have strong potential in markets such as telecommunications, data storage, sensors, and wireless technologies.

Bismarck State College

National Energy Center of Excellence (launched February, 2006)

- Provided for credit education or non-credit, company training to over 1,600 individuals in fiscal year 2009.
- Helped create 144 jobs within the energy industry in North Dakota.
- Contributed to a 15 percent growth in BSC's energy program enrollment by providing a state-of-the-art facility with increased lab space and updated equipment.

Valley City State University

Enterprise University (launched May, 2006)

- Helped launch Eagle Creek Software's Valley City location by training employees on Siebel Customer Relationship Management software.
- Helped create 78 jobs in North Dakota.

Dickinson State University

Strom Center for Entrepreneurship & Innovation (launched October, 2006)

- Helped Killdeer Mountain Manufacturing (KMM) implement supply chain transparency technology which allows for efficient coordination of KMM's five facilities in rural North Dakota.
- Developed a customized certificate program designed to enhance the leadership and communication skills of KMM employees. The program can be customized for other companies and is also available to the public.
- Helped KMM create 154 jobs in rural North Dakota.

Lake Region State College

Dakota Center of Technology-Optimized Agriculture (launched February, 2006)

- Researching precision agricultural practices such as variable rate application of synthetic fertilizer. Results to date show farmers can save 8-16 percent on fertilizer costs by utilizing these practices.
- Researching the potential of using site-specific control technologies for manure application. This research has the potential to reduce fertilizer costs while providing another potential use for manure generated as a byproduct of the state's livestock industry.
- Verdi-Plus and Site Specific Agriculture, Inc. are two new spin off companies associated with this Center. A third company, Agri ImaGIS Technologies, Inc., has greatly expanded its operations.

Williston State College

Petroleum Safety & Technology Center (launched May, 2006)

- Providing training for 169 companies in the oil and gas industry.
- Trained more than 4,000 individuals in fiscal year 2009.

Legislatively Appropriated and Designated Centers

The following Centers were appropriated funds by the Legislature in 2003 and do not fall under the jurisdiction of the Centers of Excellence Commission. They have voluntarily submitted information to be included in this report in order to provide a more complete picture of the economic impact of the Centers of Excellence program.

Center for Innovation (launched January, 2005)

- Has assisted in the creation of 191 jobs with $9.13 million estimated annual payroll.
- Has assisted 86 organizations and helped launch approximately 150 products and ventures.
- Supports the UND Entrepreneurship Program which has been ranked in the top one percent of entrepreneurship programs nationwide by Entrepreneur Magazine and Princeton Review for the past five years.

Technology Incubator (launched March, 2007)

- As of June 30, 2009, the Technology Incubator had 7 tenants, 121 employees and a total annual payroll of nearly $8.8 million.
- Three tenants have graduated from the Technology Incubator one of which, Appareo Systems, has invested in its own facility in the NDSU Research and Technology Park.

Beef Systems Center of Excellence (launched October, 2007)

- Researching factors that affect beef quality and yield.
- Co-located at North Dakota Natural Beef's processing plant in Fargo which provides unique advantages such as availability and proximity of animal carcasses for research and educational purposes.